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A Digital Management Framework for Accreditation Audit Excellence: Enhancing Coordination, Accountability, and Continuous Improvement in Academic Institutions

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ABSTRACT

Accreditation audits are vital for ensuring quality and accountability in higher education, yet many institutions struggle with coordination, documentation, and timely readiness. This study introduces a Digital Management Framework that transforms manual audit practices into a structured, transparent system. This study introduces an innovative, institution-tested Digital Management Framework, uniquely designed to integrate low-cost digital tools into accreditation preparation for Malaysian TVET institutions. Implemented at a Malaysian community college preparing for MBOT accreditation, the framework integrates four accessible digital tools: an Excel-based Gantt chart, progress dashboard, Telegram communication group, and a centralized Quality Assurance Unit (QAU) repository. Progress was monitored through checkpoints at 20%, 40%, 60%, and 100% completion. Results showed significant improvements in coordination, documentation accuracy, and communication efficiency while reducing redundant work and administrative delays. The framework proved that low-cost digital integration can strengthen audit readiness and foster accountability without major technological investment. Scalable to various accreditation system. Unlike conventional accreditation systems that rely on manual coordination, this framework demonstrates how accessible technologies can deliver structured, transparent, and scalable audit readiness.

1. Introduction

Accreditation serves as a cornerstone of quality assurance and institutional accountability in higher education. It provides a systematic approach for evaluating academic programs, ensuring they meet established professional and educational standards. Accreditation processes also promote transparency, encourage continuous improvement, and strengthen institutional credibility among stakeholders such as students, employers, and regulatory bodies. In the context of technology-based

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and vocational education, accreditation holds particular importance as it validates the relevance of programs to industry needs and evolving technological advancements.

Despite its significance, preparing for accreditation audits remains a complex and resource-intensive process for many institutions. Academic departments often face challenges in coordinating multiple tasks, managing diverse documentation, and ensuring consistent progress across all required criteria. Manual tracking methods, fragmented communication, and decentralized documentation systems frequently lead to duplication of effort, loss of data, and last-minute rushes before submission deadlines. These issues not only hinder operational efficiency but also place additional pressure on staff, compromising the overall quality of the audit submission.

The increasing adoption of digital tools in higher education management presents new opportunities for improving accreditation preparation. Project management platforms, cloud-based repositories, and instant communication tools can enhance collaboration, enable real-time monitoring, and ensure better alignment between teams. However, there remains a gap in structured, integrated frameworks that combine these digital elements specifically for accreditation readiness, particularly in the context of Technical and Vocational Education and Training (TVET) institutions.

This study addresses that gap by developing a Digital Framework for Accreditation Audit Preparation. Using a community college's professional accreditation process as a case study, the framework integrates progress monitoring, team communication, and centralized documentation within a single coordinated system. The aim is to provide a structured, transparent, and replicable model that enhances institutional efficiency, reduces administrative workload, and promotes a culture of accountability and continuous improvement.

2. Literature Review

2.1 Accreditation and Quality Assurance in Higher Education

Accreditation serves as a systematic evaluation process that ensures quality standards, accountability, and continuous improvement across higher education institutions. According to Uithof et al. [1], accreditation enhances institutional performance through improvements in program design, assessment methods, and academic support systems. Similarly, Kettunen [2] emphasized that accreditation not only establishes benchmarks for educational quality but also acts as a catalyst for institutional innovation and competitiveness. In globally recognized universities, accreditation mechanisms ensure that programs meet international quality criteria, thereby promoting global recognition and institutional advancement [3].

However, several studies have identified challenges in accreditation systems. Rydzak et al. [4] noted that governance issues, excessive bureaucracy, and an overemphasis on compliance may hinder innovation and collaboration among educators. Despite these obstacles, accreditation remains a critical mechanism for demonstrating institutional legitimacy and educational quality worldwide.

In Malaysia, professional accreditation bodies such as the Malaysian Qualifications Agency (MQA), the Board of Engineers Malaysia (BEM), and the Malaysian Board of Technologists (MBOT) play central roles in regulating educational standards. The Malaysian Qualifications Framework (MQF) promotes outcome-based education that emphasizes the alignment of learning outcomes, curriculum design, and industry relevance [5]. Program development processes typically involve mapping curriculum elements to MQF 2.0 standards and analyzing accreditation board requirements to close the gap between academic and industrial expectations [6].

Despite the strengths of these frameworks, documentation management continues to be a major challenge. A systematic review by Cohee [7] identified documentation control, evidence tracking, and stakeholder communication as among the most difficult elements of accreditation management. These findings suggest that improving documentation workflows and coordination can significantly enhance audit readiness and quality assurance outcomes.

2.2 Digitalization of Quality Management Processes

The integration of digital technologies in academic quality management has transformed how institutions plan, monitor, and report accreditation activities. Ng and Tan [8] demonstrated that digital documentation systems improve audit transparency, traceability, and version control. Similarly, Chin et al. [9] reported that cloud-based tools facilitate real-time updates, improve stakeholder engagement, and enable data-driven decision-making during audit preparation.

Digital transformation in education also extends to the use of Learning Management Systems (LMS). Latif and Daud [10] noted that LMS platforms enhance accessibility, foster collaboration, and improve institutional readiness for both teaching and accreditation. Key success factors include secure access, version control, integration capability, and centralized file management [11].

Building on these findings, Mane et al. [12] implemented an Agile-Scrum approach to manage NAAC accreditation in Indian higher education institutions. Their results showed that iterative planning, sprint reviews, and progress dashboards improved coordination and audit preparedness. Likewise, Cohee [13] examined project management techniques for AACSB accreditation and identified structured workflows and task ownership as crucial for maintaining consistency and accountability. These studies collectively demonstrate how structured project management systems and digital dashboards can improve efficiency, reduce delays, and optimize audit outcomes.

2.3 Communication and Coordination in Accreditation Teams

Effective communication among audit team members has been widely recognized as a key determinant of audit quality and institutional performance. Cardile et al. [14] demonstrated that structured communication training significantly improved team members' self-efficacy, communication styles, and satisfaction during audit evaluations. Similarly, Proell et al. [15] observed that communication mismatches between senior and junior audit staff negatively affected issue resolution and performance evaluation. Rydzak et al. [16] further found that communication barriers, such as unclear role expectations and limited feedback mechanisms, can weaken collaboration and hinder timely audit submission.

These findings highlight that communication is not only essential for teamwork but also for maintaining transparency with external stakeholders during accreditation reviews. Therefore, developing structured communication channels, such as digital messaging platforms or audit coordination dashboards, can enhance engagement, reduce misunderstandings, and support continuous improvement.

2.4 One-Stop Digital Centres for Quality Assurance

The emergence of one-stop digital centres has become a defining trend in modern higher education quality assurance. Uithof et al. [17] described how centralized quality assurance portals simplify documentation access, streamline coordination, and support institutional audits through integrated digital workflows. Ng and Tan [18] emphasized that evidence-based accreditation

supported by digital systems enables real-time data analysis, automated reporting, and consistent feedback loops.

Evidence from international agencies such as the Quality Assurance Agency (QAA) in the UK, the Commission for Academic Accreditation (CAA) in the UAE, and the Independent Kazakhstan Quality Assurance Agency (IQAA) demonstrates that centralized digital systems strengthen audit readiness and foster data-driven decision-making [19]. Similarly, Latif and Daud [20] reported that unified digital management systems significantly reduce administrative workload by automating repetitive tasks and improving resource efficiency.

These one-stop systems align with global trends in digital transformation and provide valuable insight for developing national and institutional quality assurance frameworks that are both efficient and scalable.

2.5 Research Gap

Although there is substantial literature on digital quality assurance and accreditation systems, few studies have presented practical, operational frameworks specifically designed for accreditation readiness in Malaysian institutions. Most prior research has focused on policy alignment or macro-level governance rather than the detailed coordination mechanisms required for day-to-day audit management.

This study addresses that gap by proposing a technology-supported framework that integrates digital progress tracking, structured communication, and centralized documentation. The framework is particularly tailored to meet the operational needs of accreditation management within TVET and polytechnic environments under the Malaysian Board of Technologists (MBOT).

In summary, while prior research highlights the benefits of digital tools, structured project management, and collaborative communication in accreditation processes [12,13], there remains limited evidence on contextualized models for Malaysian community colleges. This study contributes to closing that gap by presenting an applied digital management framework that integrates communication, documentation, and monitoring into a cohesive, replicable structure designed for efficient audit preparation.

3. Methodology

3.1 Research Design

This study employed a case study design to develop and evaluate a digital framework for organizing accreditation audit preparation within an academic institution. The approach was selected to capture real-world institutional processes, focusing on the planning, coordination, and documentation activities undertaken during the six-month accreditation preparation period. No surveys or interviews were conducted; instead, the study relied entirely on institutional records, digital communication logs, and documentation workflows.

The research was conducted in a community college preparing for professional accreditation of a technology-based program under the Malaysian Board of Technologists (MBOT). The case was chosen for its relevance to Malaysia's Technical and Vocational Education and Training (TVET) sector, where accreditation plays a key role in maintaining program quality and industry alignment.

3.2 Framework Development

The framework was designed to ensure that every phase of the accreditation audit—from evidence collection to document submission—was systematically planned, tracked, and reviewed. The development process followed three main stages:

- i. Planning Phase: Identification of all MBOT criteria elements, task assignment to relevant Persons-in-Charge (PICs), and creation of the master progress tracking template.
- ii. Monitoring Phase: Regular updates through the progress tracking system, with checkpoints at 20%, 40%, and 60% completion levels to ensure early identification of gaps.
- iii. Finalization Phase: Compilation and verification of evidence through the Quality Assurance Unit (QAU) website, leading to 100% completion and final internal review before audit submission.

3.3 Framework Novelty and Contribution

The originality of this framework lies in its integration of low-cost, commonly available digital tools such as Excel, Telegram, and a web-based repository into a structured and replicable accreditation management model. While previous studies have explored digital transformation in quality assurance, few have proposed a fully operational model tailored to the Malaysian MBOT context. This framework is also distinctive for its checkpoint-based monitoring system (20%, 40%, 60%, and 100%), which provides measurable progress visibility rarely documented in existing accreditation research. By combining institutional experience with digital management principles, this study contributes a contextualized, practice-based innovation that bridges theory and implementation in the field of educational quality assurance.

3.4 Tools and Digital Integration

The framework integrated several digital tools to enhance efficiency, transparency, and coordination across departments:

- i. Excel-Based Gantt Chart and Progress Tracker: Used to plan, monitor, and visualize progress over six months. Each task was linked to a specific MBOT criterion and assigned to a PIC. Color-coded indicators (20%, 40%, 60%, and 100%) reflected completion levels, calculated based on the number of criterion elements achieved.
- ii. Progress Status Report (Excel): Provided a summary of progress across all departments and helped identify tasks requiring immediate attention.
- iii. Telegram Communication Group: Functioned as the primary communication channel for the accreditation team, enabling real-time updates, reminders, and coordination among the Head of Committee, Quality Assurance Unit (QAU), and PICs.
- iv. QAU One-Stop Centre Website: Served as a centralized repository for all accreditation-related documentation, including templates, evidence files, and records of communication. Each PIC uploaded verified documents directly to their designated folder, ensuring traceability and reducing duplication of effort.

3.5 Institutional Roles and Responsibilities

The accreditation process involved three key institutional roles:

- i. Head of Accreditation Committee: Provided overall supervision, verification, and guidance throughout the process.
- ii. Quality Assurance Unit (QAU): Oversaw coordination, facilitated communication, and managed centralized documentation through the QAU website.
- iii. Persons-in-Charge (PICs): Managed assigned criteria, collected and verified evidence, and ensured timely submission of documentation according to progress checkpoints.

This clear delineation of responsibilities helped maintain accountability and ensured that every criterion element was continuously monitored for completeness and compliance. The findings were then used to refine and validate the Digital Framework for Accreditation Audit Preparation, ensuring its practicality, adaptability, and replicability for future use in other academic institutions.

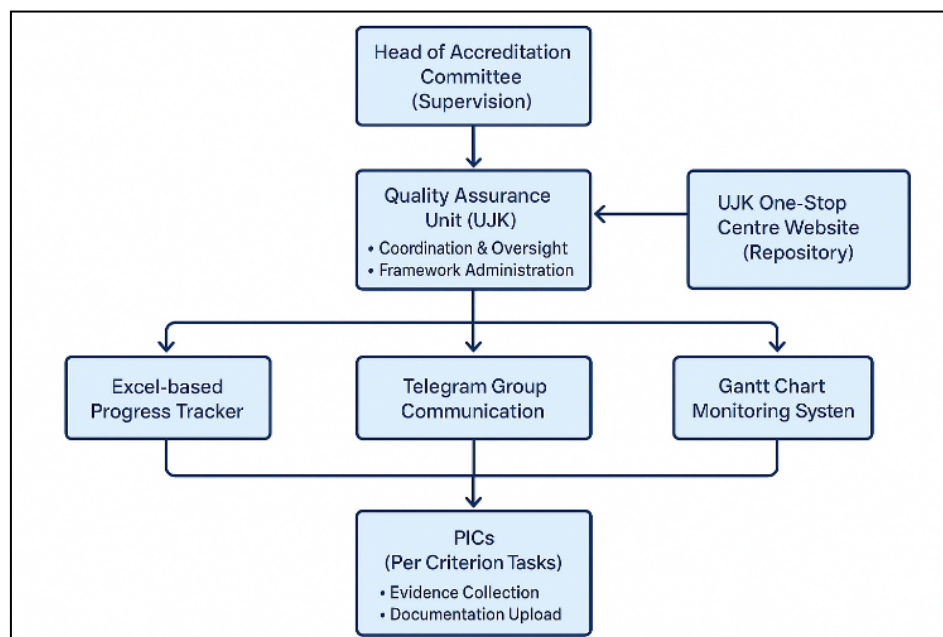


Fig. 1. Digital Framework for Accreditation Preparation

The framework integrates four digital tools—Excel progress tracker, Telegram communication group, Gantt chart monitoring system, and the Quality Assurance Unit (QAU) one-stop digital centre—under the coordination of the QAU and supervision of the Head of the Accreditation Committee. Each Person-in-Charge (PIC) manages assigned accreditation criteria, uploads verified evidence, and reports progress through four checkpoints (20%, 40%, 60%, and 100%).

3.6 Data Collection and Analysis

Data for this study consisted of institutional progress records, Excel tracking files, communication logs from the Telegram group, and metadata from the QAU website. These data sources were analyzed qualitatively to identify patterns of efficiency, bottlenecks, and lessons learned during the accreditation preparation process.

Analysis focused on three key aspects:

- i. Efficiency of Workflow: Measured by timely task completion and reduction in redundant efforts.
- ii. Effectiveness of Communication: Evaluated through the frequency and clarity of Telegram updates and coordination among team members.

- iii. Reliability of Documentation: Assessed through the organization, accessibility, and accuracy of uploaded evidence.

The findings were then used to refine and validate the Digital Framework for Accreditation Audit Preparation, ensuring its practicality, adaptability, and replicability for future use in other academic institutions.

4. Result and Discussion

The implementation of the proposed Digital Framework for Accreditation Audit Preparation resulted in substantial improvements in institutional coordination, documentation quality, and overall audit readiness. The use of integrated digital tools including the Excel-based Gantt chart, Telegram communication group, and the Quality Assurance Unit (QAU) one-stop centre website proved effective in managing the complexity of accreditation activities over a six-month period.

4.1 Improved Coordination and Transparency

The Gantt chart and progress tracking system provided a clear visual representation of each accreditation criterion, allowing the audit team to identify delays, overlaps, and pending tasks early in the process. Color-coded progress indicators at 20%, 40%, 60%, and 100% completion levels helped standardize performance monitoring and allowed the QAU to assess readiness at every checkpoint. This structured approach supported proactive intervention and reduced the likelihood of last-minute data consolidation, which was previously a major source of stress for staff.

Consistent with the findings of Mane et al. [12], who emphasized the value of structured project management cycles in accreditation readiness, this framework demonstrated that visual planning tools significantly enhance accountability and progress tracking within multidisciplinary teams.

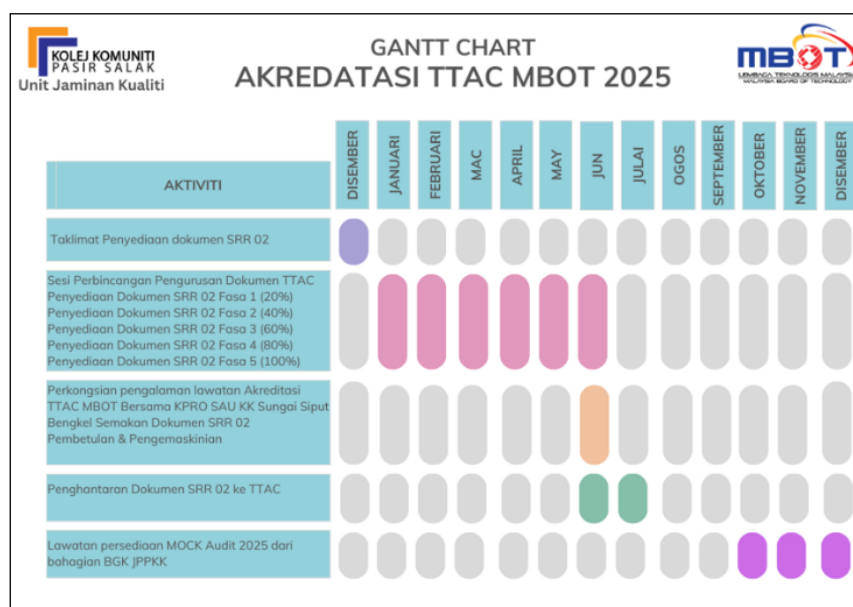


Fig. 2. Progress Tracking Dashboard

The Gantt chart (Figure 2) illustrates the structured timeline of accreditation preparation activities across all criteria. Each task was assigned to a designated Person-in-Charge (PIC), and progress was tracked using color-coded indicators corresponding to 20%, 40%, 60%, and 100%

completion levels. This visual format enabled the audit committee and the Quality Assurance Unit (QAU) to monitor task progress transparently and identify areas requiring immediate follow-up.

TTAC PREPARATION TRACKING PROGRESS (SPK)	
PROGRAM: SIJIL TEKNOLOGI PEMROSESAN MAKANAN	
NAMA KETUA PROGRAM: SITI SALEHA	
CRITERIA	PROGRESS (%)
CRITERIA 1	92%
CRITERIA 2	97%
CRITERIA 3	85%
CRITERIA 4	100%
CRITERIA 5	93%
CRITERIA 6	97%
CRITERIA 7	100%

Fig. 3. Progress Tracking Dashboard

Figure 3 displays the Excel-based dashboard used to consolidate progress data from all departments. The dashboard automatically generated summary charts of completion percentages and outstanding tasks. This visualization simplified the review process and provided the QAU with an at-a-glance understanding of institutional readiness at each checkpoint.

TTAC PREPARATION TRACKING PROGRESS (SPK)

PROGRAM: SIJIL TEKNOLOGI PEMROSESAN MAKANAN

NAMA KETUA PROGRAM: SITI SALEHA

NAMA PIC: SITI SALEHA

% PROGRESS

100%

CRITERIA 4 : TEACHING AND SUPPORT STAFF

NO	STATUS: COMPLETE= 1	REF. NO	DOCUMENT NAME	NOTES
1	1	C4.7.1.1	Pekeliling Perkhidmatan Bilangan 33 Tahun 2007 - Skim Perkhidmatan Pegawai Pendidikan Pengajian Tinggi	selesai
2	1	C4.7.1.2	Pekeliling Perkhidmatan Bilangan 6 Tahun 2010 - Rasionalisasi Skim Perkhidmatan Bagi Perkhidmatan Awam Persekutuan Di Bawah Sistem Saran Malaysia	selesai
3	1	C4.7.2.1.1	Surat Lantikan Penasihat Program (Industri)	selesai
4	1	C4.7.3.1	Maklumat Akademik Staf Program	selesai
5	1	C4.7.3.2	CV Pensyarah Sijil Teknologi Pemprosesan Makanan	selesai
6	1	C4.7.4.1	Salinan Sijil Keahlian Profesional Ts /Tc	selesai
7	1	C4.7.8.1	CV Staf Teknikal KKPS	Selesai
8	1	C4.7.9.1	Reten Perjawatan KKPS 2025	Selesai
9	1	C4.7.10.1	Reten Perjawatan KKPS 2025	Selesai

Fig. 4. Criterias Progress Tracking Dashboard

Figure 4 illustrates the TTAC Preparation Tracking Progress dashboard, which is used to monitor the readiness and documentation progress for accreditation or quality assurance activities within the Food Processing Technology Certificate (Sijil Teknologi Pemprosesan Makanan - SPK) programme. The dashboard serves as a systematic tool to track the completion status of required documents across specific evaluation criteria. In this example, the dashboard focuses on Criteria 4: Teaching and

Support Staff, which evaluates aspects related to academic and non-academic personnel involved in program delivery. Each document is assigned a reference number (Ref. No.), title, and completion status, with a “Notes” column indicating whether the task has been completed (“selesai”). The progress indicator at the top shows a 100% completion rate, reflecting that all required documents for this criterion have been fully prepared and submitted. This progress tracking system enables transparent monitoring and accountability among team members by providing a clear visual overview of task completion. It also facilitates efficient documentation management, ensuring that all accreditation requirements are met in a timely and organized manner.

4.2 Enhanced Communication and Collaboration

The introduction of a dedicated Telegram group improved communication frequency and clarity among all team members. Real-time implementation of the proposed Digital Framework for Accreditation Audit Preparation resulted in substantial improvements in institutional coordination, documentation quality, and overall audit readiness. The use of integrated digital tools including the Excel-based Gantt chart, Telegram communication group, and the Quality Assurance Unit (QAU) one-stop centre website proved effective in managing the complexity of accreditation activities over a six-month period.

4.1 Improved Coordination and Transparency

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4.2 Enhanced Communication and Collaboration

The introduction of a dedicated Telegram group improved communication frequency and clarity among all team members. Real-time updates, document-sharing capabilities, and reminders allowed the audit committee, PICs, and QAU representatives to coordinate tasks efficiently, even across different departments. The tool also encouraged peer support, as participants could easily discuss challenges and share solutions.

This outcome supports the conclusions of Cardile et al. [14], who found that structured communication frameworks enhance team self-efficacy and engagement. Similarly, Proell et al. [15] noted that communication transparency directly influences audit performance and decision-making quality. The Telegram platform thus served as a practical, low-cost solution for maintaining engagement and alignment throughout the accreditation cycle.

4.3 Centralized Documentation and Evidence Management

The establishment of the QAU one-stop digital centre emerged as one of the most impactful components of the framework. The web-based repository allowed each Person-in-Charge (PIC) to upload verified documents, templates, and reports directly into dedicated folders organized by accreditation criteria. This eliminated redundancy, reduced email dependency, and provided the audit committee with centralized access to real-time documentation.

These outcomes are consistent with Ng and Tan [8] and Chin et al. [9], who highlighted the efficiency of centralized documentation systems in improving audit traceability and version control. In addition, the one-stop digital platform fostered a stronger sense of data ownership among staff, leading to higher compliance and better-quality submissions.



Fig. 5.: QAU One-Stop Centre Interface

4.4 Efficiency, Accountability, and Cultural Shift

The digital integration produced a measurable reduction in administrative workload. Progress reporting through Excel dashboards minimized manual compilation and allowed automatic visualization of task completion. Moreover, the structured framework encouraged staff accountability, as every PIC could view their assigned responsibilities and deadlines transparently. This reflects the observations of Cohee [13], who identified structured workflows and clear task ownership as essential components of successful accreditation project management. Beyond efficiency, the process fostered a culture of shared responsibility and continuous improvement key elements of sustainable quality assurance practices.

4.5 Comparative Reflection with Prior Research

The success of this digital framework aligns with global trends in educational quality management, particularly the integration of technology to enhance collaboration and documentation processes. However, unlike previous models that focused primarily on system-level policy implementation, this study emphasizes operational-level coordination a critical yet often overlooked aspect of accreditation management in the TVET context.

This finding fills a key research gap identified by Latif and Daud [10], who noted that many institutions struggle with fragmented digital implementation and limited user training. By adopting accessible, low-cost tools such as Excel, Telegram, and a web-based repository, the institution in this study achieved tangible improvements without requiring large-scale technological investment.

4.6 Summary of Findings

Overall, the digital framework provided a clear, structured pathway for managing accreditation activities. It successfully:

- i. Improved coordination and transparency across departments.
- ii. Enhanced communication and teamwork through real-time digital engagement.
- iii. Simplified evidence management via centralized documentation.
- iv. Increased accountability and reduced redundant administrative workload.
- v. Cultivated a proactive culture of quality assurance and continuous improvement.

These results demonstrate that practical digital integration, when supported by leadership commitment and collaborative culture, can significantly transform accreditation management in higher education institutions.

To further illustrate the practical advantages of the proposed digital framework, Table 1 presents a comparison between traditional audit preparation methods and the digitalized approach implemented in this study.

Table 1

Comparison Between Traditional and Digital Framework Approaches

Aspect	Traditional Audit Preparation	Proposed Digital Framework
Coordination	Manual task assignment; limited visibility	Centralized Gantt chart with progress tracking by PIC
Communication	Email-based and fragmented	Real-time updates via Telegram group
Progress Monitoring	Irregular and subjective	Structured checkpoints (20 %, 40 %, 60 %, 100 %)
Documentation Management	Dispersed files and duplication	Centralized QAU web repository with version control
Accountability	Unclear task ownership	Transparent task allocation and visible performance dashboard
Efficiency	High administrative workload	Reduced redundancy and faster data consolidation
Scalability	Difficult to replicate	Easily adaptable to MQA, MBOT, BEM, ISO frameworks
Cultural Impact	Compliance-driven mindset	Continuous improvement and shared responsibility

4.7 Link to Framework Validation

The framework's success was evaluated through progress records, completion percentages, and communication logs. The measurable improvements in coordination, timeliness, and documentation quality validate the proposed Digital Framework for Accreditation Audit Preparation as a practical and replicable model. The framework can be adapted for various accreditation systems, including MQA, BEM, or ISO, demonstrating its scalability beyond the MBOT context that include time updates, document-sharing capabilities, and reminders allowed the audit committee, PICs, and QAU representatives to coordinate tasks efficiently, even across different departments. The tool also encouraged peer support, as participants could easily discuss challenges and share solutions.

This outcome supports the conclusions of Cardile et al. [14], who found that structured communication frameworks enhance team self-efficacy and engagement. Similarly, Proell et al. [15] noted that communication transparency directly influences audit performance and decision-making quality. The Telegram platform thus served as a practical, low-cost solution for maintaining engagement and alignment throughout the accreditation cycle.

4.8 Institutional and Broader Impact

Beyond operational efficiency, the framework produced significant institutional and cultural transformation. It strengthened accountability among Persons-in-Charge (PICs), fostered collaborative teamwork, and encouraged proactive problem-solving rather than last-minute document consolidation. The Quality Assurance Unit (QAU) reported improved audit preparedness and a reduction in verification errors, enhancing institutional confidence during external evaluations. From a digital implementation perspective, all progress tracking and documentation uploads were conducted using the institution's licensed Google Workspace account, ensuring secure data management, authorized user access, and version control. This integration of officially licensed tools reinforced compliance with institutional data governance policies while maintaining transparency and traceability across departments.

The demonstrated improvements in coordination, communication, and evidence management confirm the framework's significant contribution to advancing quality assurance practices in Malaysia's TVET sector. Its success underscores the potential of cost-efficient digital innovation to uplift institutional performance nationwide. By offering a replicable, scalable model, this study positions Malaysian community colleges as leaders in digital quality management, contributing meaningfully to the global discourse on higher education transformation.

5. Conclusion

This study presents and validates a Digital Management Framework that redefines how academic institutions organize and execute accreditation audit preparation. By integrating accessible digital tools Excel progress trackers, Telegram communication channels, and a centralized QAU web repository the framework established a transparent, collaborative, and accountable workflow for managing complex accreditation processes. Implementation within a real MBOT audit case resulted in measurable improvements in task completion, communication efficiency, and evidence management.

Beyond operational success, the framework fostered a cultural shift toward shared ownership and continuous quality improvement, proving that innovation does not require high-cost systems but strategic digital integration. This approach bridges a critical gap in Malaysia's TVET accreditation context and provides a scalable model adaptable to national and international quality assurance frameworks.

Looking forward, the framework offers opportunities for expansion through the integration of cloud-based data analytics, AI-driven monitoring dashboards, and automated compliance alerts to further enhance real-time decision-making. Ultimately, this study contributes not only a practical solution but also a strategic vision for digital transformation in accreditation management across higher education institutions. The originality of this study lies in its context-specific application of digital project management principles to accreditation processes, creating a first-of-its-kind framework for Malaysian TVET institutions that can be scaled and adapted across the region.

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References

- [1] Afadzinu, S. K., Lóránt, D., & Fayah, J. (2024). The impact of technological innovations on audit transparency, objectivity, and assurance in the digital era. *Journal of Infrastructure Policy and Development*, 8(14), 8241. <https://doi.org/10.24294/jipd8241>
- [2] Alhazmi, A., Imtiaz, A., Alhammadi, F., & Kaed, E. (2021). Success and Failure aspects of LMS in E-Learning Systems. *International Journal of Interactive Mobile Technologies (IJIM)*, 15(11), 133. <https://doi.org/10.3991/ijim.v15i11.20805>
- [3] Alzahem, A. (2022a). Institutional academic accreditation journey and challenges. *Journal of Medicine and Health Studies*, 22–28. <https://doi.org/10.37881/jmahs.124>
- [4] Arifpin, M. M., Rohaya, K., & Mansor, W. M. W. (2024). A Comparative Study of Accreditation for Engineering and Technology Education in Malaysia and Japan (pp. 1–6). *International Conference on Engineering Education*. <https://doi.org/10.1109/iceed62316.2024.10923733>
- [5] Cardile, D., Ielo, A., Corallo, F., Cappadona, I., D'Aleo, G., De Cola, M. C., Bramanti, P., & Ciurleo, R. (2023). Communication Training: Significance and Effects of a Preliminary Psychological Intervention upon an Audit Team. *International Journal of Environmental Research and Public Health*, 20(5), 4173. <https://doi.org/10.3390/ijerph20054173>
- [6] Jafarov, S. (2024). Accreditation and quality assurance in World-Leading universities. *International Journal of Current Science Research and Review*, 07(12). <https://doi.org/10.47191/ijcsrr/v7-i12-77>
- [7] Kairanbayev, N., & David, D. A. (2025). General trends on the impacts of evidence-based university accreditation on quality assurance enhancement. *International Journal of Evaluation and Research in Education (IJERE)*, 14(3), 1939. <https://doi.org/10.11591/ijere.v14i3.31271>
- [8] Khairuddin, S. N., Sarlan, A., & Ahmad, R. (2021). Challenges in Requirement Management Process: An Overview (pp. 120–124). *International Conference Communication and Information Systems*. <https://doi.org/10.1109/iccoins49721.2021.9497213>
- [9] Kumar, A., Paliwal, J., Singh, M., Pendse, V., Gade, R., Palav, M., & Raibagkar, S. (2024). Focused literature review on accreditation and quality assurance: insights and future research agenda. *Quality Assurance in Education*. <https://doi.org/10.1108/qae-08-2024-0170>
- [10] Liew, C. P., Puteh, M., Lim, L. L., Yu, L. J., Tan, J., Chor, W. T., & Tan, K. G. (2021). Evaluation of engineering students' learning Outcomes: Creating a culture of continuous quality improvement. *International Journal of Emerging Technologies in Learning (IJET)*, 16(15), 62. <https://doi.org/10.3991/ijet.v16i15.23763>
- [11] Proell, C. A., Zhou, Y., & Nelson, M. W. (2021). It's not only what you say . . . How communication style and team culture affect Audit Issue Follow-Up and Auditor Performance Evaluations. *The Accounting Review*, 97(2), 373–395. <https://doi.org/10.2308/tar-2020-0198>
- [12] Rahman, S., Aris, N. N., Yaman, R., & Mustapha, A. A. (2022). Development of Professional Post-graduate Interior Architecture Program for Public University in Malaysia. *IOP Conference Series Earth and Environmental Science*, 1067(1), 012076. <https://doi.org/10.1088/1755-1315/1067/1/012076>
- [13] Razali, N. A., Aziz, A. a. A., Juned, A. M., Mohamad, N. A., & Azhar, S. B. H. J. (2021). Students' Perception on the Attainment of Learning Outcomes of an Undergraduate project-based Final Semester Course (Professional Communication Practice). *International Journal of Academic Research in Business and Social Sciences*, 11(10). <https://doi.org/10.6007/ijarbss/v11-i10/11461>
- [14] Romanowski, M. H. (2021). The idolatry of accreditation in higher education: enhancing our understanding. *Quality in Higher Education*, 28(2), 153–167. <https://doi.org/10.1080/13538322.2021.1948460>
- [15] Rydzak, W., Przybylska, J., Trębecki, J., & Sellitto, M. A. (2023). The communication gap and the effect of self-perception on assessment of internal auditors' communication skills. *Economics & Sociology*, 16(2), 148–166. <https://doi.org/10.14254/2071-789x.2023/16-2/10>

- [16] Sikarwar, P., Tiwari, A., Joshi, R., & Agrawal, J. (2025a). Cloud Computing in Education: A revolution in learning Management Systems. *Innovare Journal of Education*, 10–17. <https://doi.org/10.22159/ijoe.2025v13i5.54161>
- [17] Sunarjo, R. A., Chakim, M. H. R., Maulana, S., & Fitriani, G. (2024). Management of Educational Institutions through Information Systems for Enhanced Efficiency and Decision-Making. *International Transactions on Education Technology (ITEE)*, 3(1), 47–61. <https://doi.org/10.33050/itee.v3i1.670>